



Footbridges – Enriching Urban Structures

Mike SCHLAICH

Prof. Dr. sc. techn.
Technische Universität Berlin
Germany
www.massivbau.tu-berlin.de

Schlaich Bergermann und
Partner
www.sbp.de



Mike Schlaich, born 1960 in Cleveland-Ohio, received his civil engineering and Dr. degree from the ETH Zürich. He is managing director of Schlaich Bergermann und Partner, Stuttgart, Berlin, New York and Professor at the “Technische Universität” in Berlin.

Summary

Footbridges are a common urban feature. They fulfil important infra-structural as well as structural tasks and at the same time can enrich the urban environment. The design of footbridges for the urban environment is quite different from that for a bridge in the open country. Urban footbridges often need to provide more than just a safe crossing of a road. Their additional tasks range from building-to-building connection, rain- and noise protection to adding value to existing structures and even entire neighbourhoods.

In this paper the issues just mentioned will be elaborated further to show how footbridges can enrich the urban environment. Some recent European footbridges will be presented to also show the large variety of solutions and to demonstrate the value of these small structures that allow engineers to experiment with new materials and to try out new structural solutions.

Keywords: footbridge, pedestrian bridge, bridge design, building culture

1. Introduction

The idea of this paper is to create awareness of the value of urban footbridges. They not only fulfil important infra-structural and structural tasks, they also are of great cultural value. They are widely visible, they are walked upon and are touched by the user thus they are experienced in a completely different way than conventional road or rail bridges. They are of cultural value because they offer the chance to become a “Gesamtkunstwerk”: they are a test bed where several designers, namely engineers and architects but also lighting experts can join to achieve a structure where all arts work together to reach a holistic appearance.

In some of today’s fast growing megacities footbridges seem to be forgotten completely. There, the lack of footbridges makes their importance drastically obvious as crossing the congested roads of these cities is a dangerous adventure. In many cities footbridges do exist but they seem to be built just to cater for the basic need of crossing the road.

Then, as soon as one wanders through Venice it becomes clear that urban footbridges can do so much more for a city. The Rialto Bridge not only fulfils additional tasks such as housing shops it also shows beauty and elegance. It has become one of Venice’s landmarks and has contributed to the city shape.

The numerous tasks urban footbridges can fulfil are challenging boundary conditions that invite the designers to study and employ new materials and structural solutions. In the full paper the tasks of the urban footbridge are discussed further and some recently built examples from the author’s office are described in more detail.



Fig. 1: Tasks of urban footbridges: connections of buildings, crossings of rivers and/or meeting points, events and toys; from left to right and up to down: Bridge of Aspiration, London, 2003, Flint & Neill Partnership, Wilkinson Eyre Architects; Petronas Towers, Kuala Lumpur, 1998, Thornton-Tomasetti Engineers, César Antonio Pelli; Passerelle Granite, Paris, 2007, Schlaich Bergermann und Partner, Feichtinger Architectes; Kieler Hörn Folding Bridge, Kiel, 1997, Schlaich Bergermann und Partner, GMP; Humpback Bridge across the Inner Harbor, Duisburg, 1999, Schlaich Bergermann und Partner; Rolling Bridge, London, 2006, SKM Anthony Hunt, Heatherwick Studio; Millennium Bridge, London, 2000, Arup, Foster+Partners; Passerelle Solférino, Paris, 1999, Marc Mimram; Passerelle Simone de Beauvoir, Paris, 2006, RFR, Feichtinger Architectes

For further examples of footbridges and the tasks they fulfil the interested reader is referred to the literature (Baus U., Schlaich M.: „Footbridges“, Birkhäuser 2008).